intimately connected with and accounted for by the deficiency in atmospheric pressure, producing southerly winds. On the Pacific coast the mean temperature is 2.°2 below the average.

Frosts occurred on the 3d, 4th and 5th in New York and New Jersey; on the 7th in Massachusetts; on the 17th in New Hampshire; on the 23d, 24th, 25th, 26th, 27th and 28th in Connecticut, New York, Vermont, New Hampshire, Massachusetts and Maine.

PRECIPITATION.

Chart No. III illustrates the distribution of the rain-fall for the month. The districts in which there has been an excess or a deficiency is apparent from an examination of the table upon the same. The decided excess for New England is principally due to the very heavy rains on the southern coast, produced by low barometer No. II. The deficiency in the Lower Lake region and the Ohio valley gave rise to droughts during the latter part of the month. In the Gulf States the deficiency, with the heat, was sufficient in a great measure to injure the crops. From northern Texas northward to Nebraska and Iowa the extreme dryness, excessive heat and grasshoppers at many places destroyed all vegetation. On the Pacific coast the rain-fall has been about the average.

The number of days on which rain fell during the month averages: in New England, eight; in the Middle Atlantic States, nine; in the South Atlantic States, eleven; in the Gulf States, eight; in the Lower Lake region, five; in the Upper Lake region, nine; in the Ohio valley and Tennessee, eight; in the upper Mississippi valley, eleven; in the lower Missouri valley, nine; in Minnesota, fifteen.

Hail fell at Troy, N. Y., on the 2nd; on the "divide," between Denver and Colorado Springs, Colorado, as large as walnuts, on the 3d; at Jamestown, N. Y., on the 7th; at Indianapolis, Ind., on the 7th and 9th; at Spartanburg, S. C., Weldon and Mount Pleasant, N. C., on the 8th; at Greensboro, N. C., Rochester and Benton Centre, N. Y., on the 12th; at Lunenburg, Vt., on the 12th and 30th; at Mount Solon, Va., on the 21st; at Pomaria, S. C., on the 24th; at Castalian Springs, Tenn., on the 29th. On Pike's Peak, Colorado, rain, hail, sleet and snow fell frequently, and often during the same storm, in succession.

HUMIDITY.

The percentages of relative humidity for the various sections average as follows: on the Gulf and South Atlantic coasts, .73; on the New England coast, .74; on the New Jersey coast, .77; in the interior of the Middle States, .66; in the Lower Lake region, .65; in the Upper Lake region, .72; in the Ohio valley, Tennessee and the Mississippi valley, from Dubuque to Vicksburg, .60; in the Lower Missouri valley, .61; in Minnesota, .74; at the Rocky Mountain stations, (excepting Pikes's Peak,) .38.

WINDS.

The arrows upon chart No. II show the prevailing winds for the month. As usual, they are from the high towards the low barometer. It is most perceptible in the Mississippi valley and westward, where the barometric gradient is the steepest, and no effect from land and sea breezes. On the Atlantic coast the prevailing winds have been from the north and east. As the high winds and gales have accompanied the movement of low barometers, they are spoken of under that heading.

The average total atmospheric movement, independent of direction, has been as follows in the several districts: New England, 4,180 miles; Middle Atlantic coast, 7,360;

interior of the Middle Atlantic States, 4,306; South Atlantic coast, 4,587; Gulf coast 5.120; Ohio and Lower Mississippi valleys, Tennessee and the interior of the Gulf and South Atlantic States, 3,359; Lower Lake region, 4,963; Upper Lake region, 5,675; Upper Mississippi valley, 4,991; Missouri valley, 5,386.

NAVIGATION.

On chart No. III is given a table of the highest and lowest water-marks during the month. The Red river has continued falling during the entire month, and was remarkably low at its close, rendering navigation difficult. The Lower Missouri, Mississippi and Ohio rivers experienced slight changes, and were lower at the end of the month than at the beginning. The Cumberland at Nashville fell steadily until the 22nd, when it was very low, but rose sixteen feet during the last week. The only freshets reported were in southern New England, resulting from the heavy rains of the 8th and 9th.

TEMPERATURE OF WATER.

Upon chart No. III will be found a table giving the maximum and minimum temperatures, at the bottom, at stations on the coast, lakes and rivers. The average range has been: in the Upper Lakes, 11°; in Lake Erie, 12°; in the Upper Mississippi, 14°; in the Lower Missouri, 7°; in the Ohio, 15°; on the South Atlantic coast, 11°; on the Middle Atlantic coast, 7°; on the New England coast, 7°.

For the purpose of comparing the temperatures of water and air, (observations made at 3 P M., daily,) the following table of averages is added:

August, 1874. Average temperatures.	New England coast.	Middle Atlantic coast.	South Atlantic coast.	Gulf coast.	Lake Erie.	Alpena, (Lake Huron.)	Lake Michigan.	Lake Superior.	Ohio river.	Cumberland, (Nashville.)	Upper Mississippi.	Lower Missouri.	San Francisco.
Maximum of Water	62°	78°	85°	90°	79°	73°	72°	57°	88°	84°	83°	81°	61°
Maximum of Air	81	93	95	100	90	83	91	87	99	104	98	103	71
Minimum of Water	55	70	74	80	67	64	60	56	73	73	71	74	58
Minimum of Air	48	55	61	73	49	45	50	54	56	66	59	56	51

ELECTRICAL PHENOMENA.

In addition to thunder-storms spoken of under previous headings, there were strong ground-currents on the telegraph line connecting Colorado Springs with the summit of Pike's Peak, Colorado, on the evening of the 1st. Frequent lightning was observed on the same line during the month. On the 3d heavy snow accompanied a heavy thunder-